

Clinical Performance Measures *Hypertension*

Tools Developed by Physicians for Physicians

Provided by:

American College of Cardiology

American Heart Association

Physician Consortium for Performance Improvement

Purpose

This measurement tool provides physicians with *evidence-based*¹ clinical performance measures, including a data collection flowsheet, that may be useful for quality improvement activities within physician practices. The measures and flowsheet are intended for prospective data collection only. The ability to track changes over time is integral to the concept of continuous quality improvement in patient care. Evidence-based clinical performance measures have been identified as a means for tracking these changes.

These measures are provided for physicians by the **American College of Cardiology (ACC)**, the **American Heart Association (AHA)**, and the **Physician Consortium for Performance Improvement (The Consortium)**. The ACC, a professional society of over 25,000 cardiovascular physicians and scientists committed to providing optimal cardiovascular care, and the AHA, a national voluntary health organization with over 30,000 scientist and physician volunteers dedicated to reducing disability and death from cardiovascular diseases and stroke, have joined with The Consortium to ensure that the cardiovascular community speaks with one voice on clinical performance measurement. The ACC and the AHA have a long-standing partnership in publishing clinical practice guidelines and are now developing physician-level performance measures for implementation in both the inpatient and outpatient setting.

The Consortium is a physician-led initiative that includes methodological experts, clinical experts representing more than 50 national medical specialty societies, state medical societies, the Agency for Healthcare Research and Quality, and the Centers for Medicare and Medicaid Services. The Consortium's vision is to fulfill the responsibility of physicians to patient care, public health, and safety by becoming the leading source organization for evidence-based clinical performance measures and outcomes reporting tools for physicians.

Performance measures must be designed based on their intended purpose.^{2,3} The measures presented here are intended to facilitate individual physician quality improvement. Therefore, there are no minimum sample size requirements, and the suggested feedback is sufficiently detailed to pinpoint areas of concern for the physician. The measures defined in this measurement tool are not intended, and should not be used, for physician comparison.⁴

Physician Performance Measures (Measures) and related data specifications, developed by the Physician Consortium for Performance Improvement (the Consortium), are intended to facilitate quality improvement activities by physicians.

These Measures are intended to assist physicians in enhancing quality of care. Measures are designed for use by any physician who manages the care of a patient for a specific condition or for prevention. These performance Measures are not clinical guidelines and do not establish a standard of medical care. The Consortium has not tested its Measures for all potential applications. The Consortium encourages the testing and evaluation of its Measures.

Measures are subject to review and may be revised or rescinded at any time by the Consortium. The Measures may not be altered without the prior written approval of the Consortium. Measures developed by the Consortium, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, e.g., use by health care providers in connection with their practices. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain. Commercial uses of the Measures require a license agreement between the user and American Medical Association, on behalf of the Consortium. Neither the Consortium nor its members shall be responsible for any use of these Measures.

THE MEASURES ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

Performance measures are not clinical guidelines; rather, measures are derived from evidence-based clinical guidelines and indicate whether or not or how often a process or outcome of care occurs.² Performance measures provide important information to a physician, allowing him or her to enhance the quality of care delivered to patients.

Statistics on Hypertension

Hypertension, the most treatable form of cardiovascular disease, has been identified as a major risk factor for coronary heart disease, the leading cause of death in the United States. Untreated hypertension can also result in stroke, kidney failure, and blindness. Nearly one-third of adults with hypertension are unaware of it, which therefore increases the risk of associated complications and diseases.⁵

- Fifty million, or approximately 1 in 5 Americans (1 in 4 adults), have hypertension.⁵
- From 1989 to 1999, the mortality rate from hypertension increased 21%.⁵
- The total direct and indirect costs of hypertension in the United States are estimated at more than \$50 billion annually.⁵

Statistics on Current Practice

Despite potential risks and established clinical guidelines, recent data suggest that some patients are not being managed optimally for this disease. It has been reported that:

- Approximately 15% of individuals who are aware that they have hypertension are not receiving therapy, and about 26% are receiving inadequate therapy and treatment.^{5,6}
- In 2001, only 55% of individuals aged 46-85 years in HEDIS® participating managed care plans had their hypertension adequately controlled.⁷
- In 2000, only 47% of Medicare beneficiaries had their hypertension adequately controlled.⁷

References

- 1 Sackett DL, Straus SE, Richardson WS, et al. Evidence-based Medicine: How to Practice & Teach EBM. 2nd edition. London:Churchill Livingstone; 2000.
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- 3 Solberg LI, Mosser G, McDonald S. The three faces of performance measurement: improvement, accountability, and research. *Jt Comm J Qual Improv*. 1997;23:135-147.
- 4 Hofer TP, Hayward RA, Greenfield S, Wagner EH, Kaplan SH, Manning WG. The unreliability of individual physician "report cards" for assessing the costs and quality of care of a chronic disease. *JAMA*. 1999;28:2098-2105.
- 5 American Heart Association. *Heart Disease and Stroke Statistics — 2003 Update*. Dallas, Tex: American Heart Association; 2002.
- 6 Oliveria SA, Lapuerta P, McCarthy BD, L'Italien GJ, Berlowitz DR, Asch SM. Physician-related barriers to the effective management of uncontrolled hypertension. *Arch Intern Med*. 2002;162:413-420.
- 7 National Committee for Quality Assurance. The state of health care quality 2002. Available at http://www.ncqa.org/sohc2002/SOHC_2002_CBP.html. Accessed: January 2003.
- 8 National Heart, Lung, and Blood Institute. National High Blood Pressure Education Program. The sixth report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. NIH Publication No. 98-4080.1997.
- 9 Schwartz G, Canzanella V, Woolley A, et al. Hypertension, diagnosis and treatment. Institute for Clinical Systems Improvement (ICSII). 2002;42.
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- 11 Williams MA, Fleg JL, Ades PA, et al. Secondary prevention of coronary artery disease in the elderly (With Emphasis on Patients >75 Years of Age). An AHA Scientific Statement from the Council on Clinical Cardiology Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention. *Circulation*. 2002;105:1735.
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Selected Evidence-Based Clinical Guidelines

Evidence-based clinical practice guidelines are available for the management of hypertension. This measurement set is based on clinical guidelines from the following:

- American Heart Association¹¹
- Department of Veterans Affairs¹⁰
- Institute for Clinical Systems Improvement⁹
- National Heart, Lung, and Blood Institute – JNC VI⁸
- World Health Organization- International Society of Hypertension¹²

The performance measures found in this document have been developed in agreement with these guidelines, enabling the physician to track his or her performance in individual patient care and per patient populations. *Please note that treatment must be based on individual patient needs and professional judgment.*

For more information and updates, including a list of practicing physicians and other experts who developed this measurement set, please visit The Consortium's Web site

www.ama-assn.org/go/quality

Relevant Physician Specialties, Patient Population, and Settings of Care

These performance measures are designed for:

- Use by any physician who manages the ongoing care of patients with diagnosed hypertension, aged ≥18 years.
- Prospective data collection in the office-based practice setting only.

**American College of Cardiology, American Heart Association, and
Physician Consortium for Performance Improvement
Hypertension Core Physician Performance Measurement Set^a**

	Clinical Recommendations	Clinical Performance Measures Per Reporting Year	
Blood Pressure Measurement	<p>Obtaining proper blood pressure (BP) measurements at each health care encounter is recommended for hypertension detection. Repeated BP measurements (≥ 2 per patient visit) will determine if initial elevations persist and require prompt attention.⁸⁻¹⁰ (Level I Recommendation, Level-C Evidence)¹⁰</p> <p>Classification of adult BP (including stages 1-3 of hypertension) is useful for making treatment decisions and is based on the average of ≥ 2 readings taken at each of 2 or more visits after an initial screening.⁸</p> <p>Hypertension is defined as systolic BP of 140 mm Hg or greater, diastolic BP of 90 mm Hg or greater, or taking antihypertensive medication.⁸</p>	<p>Percentage of patient visits with blood pressure measurement recorded</p> <p>Numerator = Patient visits with blood pressure measurement recorded</p> <p>Denominator = All patient visits for patients aged ≥ 18 years with hypertension</p>	
		<p><i>Per Patient:</i></p> <p>Number of visits with blood pressure measurement recorded/Number of visits</p> <p>Most recent systolic and diastolic BP values^b</p>	<p><i>Per Patient Population:</i></p> <p>Percentage of patient visits with blood pressure measurement recorded</p> <p>Distribution of systolic and diastolic BP values^b</p>
Plan of Care^c	<p>Nonpharmacological therapy is recommended and may include weight reduction, decreased sodium and alcohol intake and exercise.¹¹</p> <p>Selection of pharmacological therapy should be based on the presence of comorbidities, severity of hypertension, presence of risk factors, and target organ damage.¹¹</p> <p>Frequent follow-up visits are recommended.¹²</p> <p>After initiation of the initial therapy, a follow-up visit is recommended within 1-2 months, to assess hypertension control, patient compliance to treatment, and adverse effects. (Level I Recommendation, Level-C Evidence)¹⁰</p>	<p>Percentage of patient visits during which either systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg, with documented plan of care for hypertension^b</p> <p>Numerator = Patient visits with documented plan of care for hypertension</p> <p>Denominator = All patient visits during which either systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg</p>	
		<p><i>Per Patient:</i></p> <p>Number of visits with documented plan of care for hypertension/Number of visits during which either systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg</p>	<p><i>Per Patient Population:</i></p> <p>Percentage of patient visits during which either systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg, with documented plan of care for hypertension</p>

^a Refers to patients aged ≥ 18 years with diagnosed hypertension.

^b If BP measurement is repeated during the visit in the same arm and the same position, use the last BP reading. If the sequence of readings is unknown, use the lowest BP reading.

^c **Test measure.** See following page for blood pressure goals and follow-up intervals.

**American College of Cardiology, American Heart Association, and
Physician Consortium for Performance Improvement
Hypertension Core Physician Performance Measurement Set
Prospective Data Collection Flowsheet**

Allergies

Provider No. _____ Patient Name or Code _____ Birth Date ____ / ____ / ____ Gender M ☐ F ☐
(mm / dd / yyyy)

Clinical Assessment and Management	Date of Visit (mm/dd/yyyy)	____/____/____	____/____/____	____/____/____	____/____/____
	Weight (lb/kg)	<input type="checkbox"/> Unable to weigh	<input type="checkbox"/> Unable to weigh	<input type="checkbox"/> Unable to weigh	<input type="checkbox"/> Unable to weigh
	Blood Pressure	L R	L R	L R	L R
		sitting supine standing	sitting supine standing	sitting supine standing	sitting supine standing
		sitting supine standing	sitting supine standing	sitting supine standing	sitting supine standing
sitting supine standing		sitting supine standing	sitting supine standing	sitting supine standing	
Plan of Care for Hypertension ^a	<input type="checkbox"/> Recheck blood pressure at later date: _____	<input type="checkbox"/> Recheck blood pressure at later date: _____	<input type="checkbox"/> Recheck blood pressure at later date: _____	<input type="checkbox"/> Recheck blood pressure at later date: _____	
	<input type="checkbox"/> Initiate or alter medical therapy	<input type="checkbox"/> Initiate or alter medical therapy	<input type="checkbox"/> Initiate or alter medical therapy	<input type="checkbox"/> Initiate or alter medical therapy	
	<input type="checkbox"/> Initiate or alter nonpharmacological therapy ^b	<input type="checkbox"/> Initiate or alter nonpharmacological therapy ^b	<input type="checkbox"/> Initiate or alter nonpharmacological therapy ^b	<input type="checkbox"/> Initiate or alter nonpharmacological therapy ^b	
Medication Management	Medications				
Goals and Follow-up Intervals	<p><i>The Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VI)⁸</i></p> <p>Blood Pressure Goals for Specific Patient Populations:^c</p> <p>Adults (age 18 and older): Below 140/90 mm Hg</p> <p>Older persons (age 60 and older): Below 140/90 mm Hg (interim goal of SBP below 160 mm Hg may be necessary)</p> <p>Patients with diabetes: Below 130/85 mm Hg</p> <p>Patients with renal insufficiency with >1 gm per day of proteinuria: ≤125/75 mm Hg</p> <p>Patients with renal insufficiency with ≤1 gm per day of proteinuria: ≤130/85 mm Hg</p> <p>Patients with coronary artery disease: Below 140/90 mm Hg (lower is desirable if angina persists)</p> <p>Recommendation on follow-up visits:</p> <p>Most patients, following initiation of therapy: 1 to 2 months (frequency to be determined by physician for patients with associated medical problems [eg, target organ damage, other major risk factors, laboratory test abnormalities])</p> <p>After blood pressure is stabilized: 3- to 6-month intervals (depending on patient status)</p>				

^a **Test measure.** Document plan of care for hypertension if systolic blood pressure ≥140 mm Hg or diastolic blood pressure ≥90 mm Hg

^b May include weight reduction, decreased sodium and alcohol intake, and exercise

^c Publication of JNC VII, with updated blood pressure goals, is forthcoming in 2003